

# Fish Stock Sustainability Index (FSSI)

## 2011 Quarter 4 Update through December 31, 2011

### Overview

The FSSI is a performance measure for the sustainability of 230 U.S. fish stocks<sup>1</sup> selected for their importance to commercial and recreational fisheries. The FSSI will increase as stock status becomes known, overfishing is ended, and stocks increase to the level that provides maximum sustainable yield.

### FSSI Scoring Method

The FSSI is calculated by assigning a score for each fish stock based on the five following criteria:

#### Criteria

#### Points Awarded

- |   |     |
|---|-----|
| 1. "Overfished" status is known   | 0.5 |
| 2. "Overfishing" status is known  | 0.5 |
| 3. Overfishing is not occurring (for stocks with known "overfishing" status)  | 1.0 |
| 4. Stock biomass is above the "overfished" level defined for the stock  | 1.0 |
| 5. Stock biomass is at or above 80% of the biomass that produces maximum sustainable yield ( $B_{MSY}$ ) <sup>2</sup> | 1.0 |
- (this point is in addition to the point awarded for being above the "overfished" level)

The maximum score each stock may receive is 4. The value of the FSSI is the sum of all 230 individual stock scores. The maximum total FSSI score is 920, achieved if all 230 stocks were to each receive a score of 4.

### Current FSSI Score

**2011 Quarter 4 Score = 598.5** (October 1, 2011 to December 31, 2011)

The following table summarizes the current FSSI score and where additional points can be gained to raise the score in the future.

<u>Criteria</u>	<u># Stocks</u>	<u>Current Points</u>	<u>Total Points Possible</u>	<u>Actions that Can Increase the Score</u>	<u>Potential Points to Gain</u>
<b>1. "Overfished" status is known</b> Overfished: 40 Not Overfished: 138	<b>178</b>	<b>89</b>	<b>115</b>	Determine the "overfished" status for the remaining 52 stocks	<b>26</b>
<b>2. "Overfishing" status is known</b> Overfishing: 34 Not subject to overfishing: 159	<b>193</b>	<b>96.5</b>	<b>115</b>	Determine the "overfishing" status for the remaining 37 stocks	<b>18.5</b>
<b>3. Overfishing is not occurring</b> (for stocks with known "overfishing" status)	<b>159</b>	<b>159</b>	<b>230</b>	End overfishing on the 34 stocks subject to overfishing. Ensure the 37 stocks (see #2 above) are not subject to overfishing.	<b>71</b>
<b>4. Stock biomass is above the "overfished" level defined for the stock</b> (for stocks with a known "overfished" status and that are "not overfished")	<b>138</b>	<b>138</b>	<b>230</b>	Increase the biomass above the overfished level for the 40 overfished stocks. Ensure the biomass for the 52 stocks (see #1 above) is above the overfished level.	<b>92</b>
<b>5. Stock biomass is at or above 80% of <math>B_{MSY}</math></b> (this point is in addition to the point awarded for being above the "overfished" level, criteria #4)	<b>116</b>	<b>116</b>	<b>230</b>	For the 41 overfished stocks and the 21 stocks that are not overfished (but biomass is not at or above 80% of $B_{MSY}$ ), increase biomass to at or above 80% of $B_{MSY}$ . Ensure the biomass for the 52 stocks (see #1 above) is at or above 80% of $B_{MSY}$ .	<b>114</b>
<b>TOTAL</b>		<b>598.5</b>	<b>920</b>		<b>321.5</b>

<sup>1</sup> The majority of species are assessed as a single stock; however, there are a few that are assessed as a stock complex, which contain a group of species with similar geographic distribution, co-occurrence in fisheries, and life history.

<sup>2</sup> Stocks rebuilding from a previously overfished condition are not awarded the fourth point until they reach  $B_{MSY}$ , as mandated by the Magnuson-Stevens Act. After they have been fully rebuilt, they may fluctuate within the 80% parameter and retain the score of 4 like the other non-rebuilding stocks.

## Summary of Stock Status Determination Changes from October 1, 2011 through December 31, 2011

### Overview of overfishing status of FSSI stocks through December 31, 2011

- 193 stocks or stock complexes are known with respect to their overfishing status. Of these:
  - 159 stocks or stock complexes are not subject to overfishing.
  - 34 stocks or stock complexes have a fishing mortality rate that exceeds the overfishing threshold (i.e., is subject to overfishing).
- 37 stocks or stock complexes have overfishing thresholds not defined or applicable, or are unknown with respect to their overfishing status.

### Overview of overfished status of FSSI stocks through December 31, 2011

- 178 stocks or stock complexes are known with respect to their overfished status. Of these:
  - 138 stocks or stock complexes are not overfished (4 of these stocks are approaching an overfished condition).
  - 40 stocks or stock complexes are overfished.
- 52 stocks or stock complexes have overfished thresholds not defined or applicable, or are unknown with respect to their overfished status.

### Summary of Overfishing and Overfished Changes of FSSI Stocks

<u>Stock</u>	<u>Region</u>	<u>Previous Status</u>	<u>Current Status</u>	<u>Previous Total FSSI Score</u>	<u>Current Total FSSI Score</u>
Yellowedge grouper - Gulf of Mexico	GMFMC	Overfished – Unknown	Not Overfished B/Bmsy>80%	1.5	4
Summer flounder - Mid-Atlantic Coast	MAFMC	Not Overfished – Rebuilding	Rebuilt	3	4
Winter flounder - Georges Bank	NEFMC	Subject to Overfishing Overfished	Not Subject to Overfishing Not Overfished – Rebuilding	1	3
Winter flounder - Gulf of Maine	NEFMC	Overfishing – Unknown	Not Subject to Overfishing	0	1.5
Winter flounder - Southern New England / Mid-Atlantic	NEFMC	Subject to Overfishing	Not Subject to Overfishing	1	2
Little skate - Georges Bank / Southern New England	NEFMC	B/Bmsy<80%	B/Bmsy>80%	3	4
Smooth skate - Gulf of Maine	NEFMC	Overfished	Not Overfished – Rebuilding	2	3
Snow crab - Bering Sea	NPFMC	Not Overfished – Rebuilding	Rebuilt	3	4
Gulf of Alaska Deepwater Flatfish Complex	NPFMC	Not Overfished B/Bmsy>80%	Overfished – Unknown	4	1.5
Widow rockfish - Pacific Coast	PFMC	Not Overfished – Rebuilding	Rebuilt	3	4
Black sea bass - Southern Atlantic Coast	SAFMC	Overfished	Not Overfished – Rebuilding	1	2
Tilefish - Southern Atlantic Coast	SAFMC	Subject to Overfishing	Not Subject to Overfishing	3	4
TOTAL FSSI SCORE				587	598.5

## Overview of overfishing status of non-FSSI stocks through December 31, 2011

- 62<sup>3</sup> stocks or stock complexes are known with respect to their overfishing status. Of these:
  - 60 stocks or stock complexes are not subject to overfishing.
  - 2 stocks have a fishing mortality rate that exceeds the overfishing threshold (i.e., is subject to overfishing).
- 239 stocks or stock complexes have overfishing thresholds not defined or applicable, or are unknown with respect to their overfishing status.

### Changes in overfishing status of non-FSSI stocks

- In the Northwest Region –
  - Krill - Pacific coast – is undefined (was previously not listed in the FMP).
- In the Pacific Islands / Southwest Regions –
  - Bigeye thresher - North Pacific and pelagic thresher - North Pacific - both previously listed as unknown - are no longer contained in the fishery management unit, but are now classified as Ecosystem Component Species.
- In the Alaska Region –
  - Gulf of Alaska Squid Complex – is unknown (is a new complex, formerly part of the Other Species Complex).
  - Bering scallop, Giant rock scallop, Reddish scallop, Spiny scallop, White scallop – all previously listed as undefined - are no longer contained in the fishery management unit, but are classified as Ecosystem Component Species.

There are no changes to any of the other Regions.

## Overview of overfished status of non-FSSI stocks through December 31, 2011

- 32<sup>3</sup> stocks or stock complexes are known with respect to their overfished status. Of these:
  - 27 stocks or stock complexes are not overfished (1 of these stocks is approaching an overfished condition).
  - 5 stocks are overfished.
- 269 stocks or stock complexes have overfished thresholds not defined or applicable, or are unknown with respect to their overfished status.

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<sup>3</sup> This number includes Pacific halibut, which is managed by the International Pacific Halibut Commission.

## Changes in overfished status of non-FSSI stocks

- In the Northwest Region –
  - Coho salmon - Washington Coast: Queets – is rebuilt.
  - Krill - Pacific coast – is undefined (was previously not listed in the FMP).
- In the Alaska Region –
  - Gulf of Alaska Squid Complex – is undefined (is a new complex, formerly part of the Other Species Complex).
  - Gulf of Alaska Other Shallow Water Flatfish Complex – is not overfished (was previously unknown).
  - Bering scallop, Giant rock scallop, Reddish scallop, Spiny scallop, White scallop – all previously listed as undefined - are no longer contained in the fishery management unit, but are now classified as Ecosystem Component Species.
- In the Pacific Islands / Southwest Regions –
  - Bigeye thresher - North Pacific and pelagic thresher - North Pacific - both previously listed as unknown - are no longer contained in the fishery management unit, but are now classified as Ecosystem Component Species.

There are no changes to any of the other Regions.

**FSSI stock status updates are posted quarterly at:**

**<http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm#07>**